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REPORT

ON THE

Aligarh Agricultural Station

OF THE

UNITED PROVINCES OF AGRA AND OUDH

FOR THE YEAR ENDING JUNE 30th, 1910.

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From

W. H. MORELAND, Esq., C.I.E., I.C.S.,
Director of Land Records and Agriculture,
United Provinces,

To

The CHIEF SECRETARY to GOVERNMENT,
United Provinces.

Dated Aligarh, the 1st July 1910.

Sir,

I have the honour to submit the report on the Aligarh Agricultural Station for the year ending 30th June 1910. The report has been prepared by Dr. A. E. Parr, Deputy Director of Agriculture in charge of the Western Circle.

I have the honour to be,
Sir,
Your most obedient servant,

W. H. MORELAND,
Director.

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Report on the Aligarh Agricultural Station for the year ending 30th June 1910.

CHAPTER I.

(*a*) OBJECTS OF THE STATION.

THE station is primarily concerned with improvements in the cotton crop. It also serves as a centre for supplying assistance to land-holders and cultivators. Its activities in this direction are dealt with in the departmental report.

(*b*) SOIL.

The soil is a light reddish loam typical of the surrounding district. The Koil distributary of the Ganges Canal supplies water for irrigation.

CHAPTER II.

EXPERIMENTS WITH ACCLIMATIZED AMERICAN AND COUNTRY COTTONS.

EXPERIMENT I.—*Early sowing V. Sowing with rains.*

(*a*) **American cotton.**—Two plots of, as near as possible, uniform quality were selected. American cotton was sown with irrigation in one plot on 4th May and with the rains in the other plot on 18th June. Each plot was ·32 acres in area.

The results given below agree with those obtained last year, viz., that early sowing of American cotton is beneficial :—

Crop and treatment.	Outturn of *kapas* per acre in lbs.	Remarks.
(1) American cotton sown early with irrigation.	394	
(2) American cotton sown late with the rains.	217	

(*b*) **Country cotton.**—White flowered country cotton was sown in two plots on the 4th May and in two other plots on the 21st June.

Each plot was ·10 acres in area.

The following table shows the outturn per acre :—

Crop and treatment.	Outturn of *kapas* per acre in lbs.		Average outturn.	Remarks.
	1	2		
(1) Country cotton sown early with irrigation.	269	279	274	
(2) Country cotton sown late with the rains.	251	241	246	

The early sown cotton gave better results this year.

EXPERIMENT II.—*Sowing after the plough V. Broadcasting.*

Four plots, as uniform as possible, were selected. The area of each plot was $\frac{1}{10}$th acre.

Two plots were sown with white flowered country cotton in rows two feet apart. The plants were thinned out to a certain extent where necessary.

In the other two plots the seed of the same kind of country cotton was broadcasted and the plants were thinned out where crowded.

The following statement shows the outturn per acre in lbs :—

Crop and treatment.	Outturn of *kapas* per acre in lbs.	Remarks.
(1) Country cotton sown after the plough in rows 2 feet apart.	615	
(2) Country cotton sown broadcast ...	610	

The outturns are practically equal. But sowing in lines facilitates weeding, and thus saves expense.

EXPERIMENT III.—*American cotton plant No* 16 *V. plant No.* 21.

Ten plots of $\frac{1}{10}$th acre each were selected. On the 4th May five of them were sown with plant No. 21.

The following table will show that in every case plant No. 21 gave better results than plant No. 16.

Crop and treatment.	Outturn of *kapas* per acre in lbs.					Average outturn of 5 plots in lbs.	Remarks.
	1	2	3	4	5		
Plant No. 16 ...	482	547	495	457	471	490·4	
Plant No. 21 ...	541	626	758	662	513	626·0	

EXPERIMENT IV—*Trial of different kinds of country cottons.*

(*a*) Five kinds of country cottons were received from different places, and were sown in duplicate $\frac{1}{10}$th acre plots for comparison.

The following statement shows the results.

Name of variety.	Outturn per acre in lbs.	Percentage of lint to seed.	Remarks.
(1) Country cotton from Kursanda ...	252	37·909	Discarded.
	316	37·696	Ditto.
(2) „ „ „ Daryapur ...	163	41·414	
	171	41·414	
(3) „ „ „ Akbarpur ...	176	38·835	Discarded.
	163	36·666	
(4) „ „ „ Rallis' selection	153	32·967	
	140	30·602	
(5) „ „ „ Bisawar ...	411	35·039	
	250	34·948	Discarded.

Daryapur variety has been kept for trial next year, on account of its high percentage of lint. The others have been discarded.

(*b*) Two selections, No. 191 and No. 202 were received from the Economic Botanist.

No. 202 has been discarded while No. 191 will be tried another year.

CHAPTER III.

PLANT SELECTION.

The seed from the twelve plants selected last year was sown in separate lines. Each plant was harvested separately.

Ten of the plants were from American and two from country varieties.

All the American selections were discarded without examination as it has been decided to abandon further experiments with this kind of cotton.

The selections from the country varieties were examined.

Details are given in the following statement.

Statement showing the results of examination of the selected plants.

Plant No.			Weight of *kapas* in grains.	Ginning results percentage of *rui*.	Remarks.
American	...	1*a*	...	...	Discarded without any examination.
		1*b*	...	...	
		16*a*	...	...	
		16*b*	...	...	
		$\frac{57C}{4}$-*a*	...	...	
		$\frac{57C}{5_1}$*a*	...	...	
		$\frac{62C}{2}$-*a*	...	...	
		32	...	...	
		33	...	...	
		34	...	...	
Country	...	27*a*1	1345·5	33·854	Discarded.
,,		,, *a*2	2396·	36·102	Retained.
,,		,, *a*3	1332·5	35·084	Discarded.
,,		,, *a*4	1555·5	32·690	
,,		27*b*1	1243·5	32·851	
,,		,, *b*2	986·5	33·198	
,,		,, *b*3	2930·	32·218	Retained.
,,		,, *b*4	2203·	29·778	Discarded.

New Selection.

Sixty-one American and 42 country plants were marked as being above the normal, and were picked separately.

The American plants were discarded without any examination.

A rough examination of the selections of country cotton resulted in 32 being discarded. The remaining nine were examined and out of these three were finally selected to grow in 1910-11.

The following statement shows the results of the examination.—

Plant No.		Weight of *kapas* in grains.	Ginning results, percentage of *rui*.	Remarks.
White flowered No. 1	...	2069·0	36·080	Retained.
Ditto ,, 2	...	1713·1	39·420	
Yellow flowered No. 1	...	1339·0	28·678	Discarded.
Ditto ,, 2	...	2266·5	25·080	
Kursanda W. F. ,, 1	...	1031·	42·144	Retained.
Ditto ,, 2	...	614·	34·853	Discarded.
Ditto ,, 3	...	734·5	36·624	
Ditto ,, 4	...	407·0	39·066	
Ditto ,, 5	...	683·0	36·457	

CHAPTER IV.

MISCELLANEOUS EXPERIMENTS.

(a) Groundnuts.

In order to test the suitability of groundnuts to local conditions sowings were made on the Farm. The crop was sown in duplicate $\frac{1}{10}$th acre plots, in rows 2′ apart 6″ space being left between each plant in the row. As this crop creeps along the ground it seemed desirable to try an upstanding crop along with it.

Maize and cotton were tried.

The following table gives the outturns—

Plot. No.	Area of each Plot.	Name of crop with particulars.	Outturn per acre in maunds.		Remarks.
			Groundnut.	Maize cobs.	
			Mds. s. ch.	Mds. s. ch.	
C1/2 ...	1/10th acre	Groundnut in rows 2′ apart ..	21 31 4	...	
C1/3 ...	,,	Ditto ...	23 3 12	...	
C2/2 ...	,,	Ditto with maize between the rows of groundnuts.	21 28 12	13 1 4	
C2/3 ...	,,	Ditto ditto...	19 35 0	19 33 12	
C2/4 ...	,,	Ditto American cotton ditto...	15 15 0	...	American cotton failed.

Groundnuts sell at from Rs. 4 to Rs. 7 per maund. It will be seen therefore that it is a very valuable crop for the United Provinces.

The combination maize and groundnut gave a very satisfactory outturn. Groundnuts are now being distributed to cultivators for sowing.

(b) Maize.

(1) **Jaunpur *V.* Aligarh Maize.**—The object of this experiment was to see to what extent Jaunpur maize can compete with the ordinary Aligarh maize.

The two varieties were sown at the end of May on duplicate plots which had been manured with cattle dung at the rate of 300 mannds per acre.

Below are the outturns:—

Plot No.	Area of each plot.	Name of variety.	Weight of cobs per acre in Mds.	Remarks.
			Mds. s. ch.	
B4/7 ...	1/10th acre	Jaunpur maize	23 30 0	
B5/1 ...	,,	Ditto ...	19 10 0	
C1/4 ...	,,	Aligarh Maize ...	29 5 0	
C1/5 ...	,,	Ditto ...	29 8 2	

It will be seen that Jaunpur maize gave much less outturn than the Aligarh variety. The experiment will be continued another year

Thick sowing *V.* thin sowing of maize.— Two uniform plots were selected and sown with Aligarh maize. In one plot the seed was sown in lines one foot apart and the plants left about a foot apart in the rows. [This approximates very closely to the ordinary method of the cultivation].

In the other plot the seed was sown in rows 2′ apart and the plants left a foot apart in the rows.

The results given below clearly show the advantage of giving the maize plants sufficient space. These results are being brought to the notice of cultivators. Further information is given in the departmental report.

Plot No.	Area of each plot.	Treatment.	Weight of cobs per acre in maunds.
C2/5	...	Maize sown in rows two feet apart with one foot space between each plant in rows.	Mds. sr. ch. 37 8 12
C2/6	...	Maize sown in rows one foot apart with one foot space between plants in rows.	26 2 8

(*c*) *Sugarcane.*

A few varieties of sugarcane were obtained from Meerut and Muzaffarnagar and put down on some heavy soil on the Farm. All the varieties did well. Much of the crop was sold for seed to cultivators in the sugarcane-growing villages. It may be possible to introduce a variety superior to the "common chin." Investigations are going on with this aim in view.

(*d*) *Ensilage.*

On 21st of August 1909, some green juar was put into a silo. The silo consisted of a pit dug in the ground. It was opened in the last week of December and the produce put before the farm bullocks. At first they did not eat it, but after about two days they began to take it with relish.

(*e*) *Gursikran usar.*

(1) A portion of the land which has been under Australian saltbush for the last few years was ploughed up in the monsoon. In the cold weather barley was sown and a satisfactory crop resulted. Further investigation is required before any definite conclusion can be reached as to whether this land is permanently reclaimed.

(2) Of the fruit trees sown in 1908, tamarind still continues to do the best.

(3) The experiments with reh scraping and the application of gypsum and lime were maintained through the year.

ALIGARH :
21*st June* 1910.

A. E. PARR,
Deputy Director of Agriculture, Western Circle, United Provinces.

APPENDICES.

APPENDIX A.

Character of the season and rainfall.

THE rain in the latter part of April last year allowed of good preparation for the *kharif* crops. A large area of cotton was sown during the first fortnight of May. The crop suffered considerably from boll worm. The monsoon opened on the 9th May and lasted till the 9th September.

Conditions were favourable for *rabi* sowings.

Good winter rains followed with excellent results.

Sarson was attacked by green fly. No other crop disease did extensive damage. The total rainfall at the Farm during the year was 23·23 inches.

Rainfall recorded at the Government Agricultural Station, Aligarh, from 1st of June 1909 to 31st of May 1910.

Month and date.		Rainfall in inches.	Total.
June 1909 ...	9th	·14	
	11th	·02	
	12th	·13	
	17th	1·34	
	19th	·04	
	20th	·11	
	21st	·27	
	27th	·30	
	28th	·01	2·36
July 1909 ...	1st	·03	
	2nd	·48	
	3rd	·94	
	4th	·45	
	5th	·48	
	6th	1·16	
	7th	·04	
	12th	·01	
	14th	·86	
	15th	·03	
	16th	·26	
	17th	·68	
	20th	3·39	
	21st	·40	
	22nd	·77	
	23rd	·14	
	24th	·39	
	25th	·25	
	26th	·39	
	27th	·07	
	28th	·05	
	29th	·26	
	30th	·38	
	31st	·16	11·27
August 1909 ...	2nd	·05	
	5th	·94	
	6th	·45	
	23rd	·67	
	27th	·02	
	29th	·46	
	30th	·03	
	31st	·35	
			2 97
September 1909...	1st	·81	
	2nd	1·46	
	3rd	·86	
	5th	·77	
	9th	·04	3 94
December 1909 ...	14th	·48	
	15th	·12	
	25th	·01	
	26th	·75	1·36
January 1910 ...	16th	·57	
	17th	·04	·61
February 1910...	14th	·31	·31
April 1910 ...	22nd	·01	
	29th	·04	·05
May 1910 ...	29th	·16	
	31st	·20	·36
		Total...	23·23

APPENDIX B.

SITE MAP

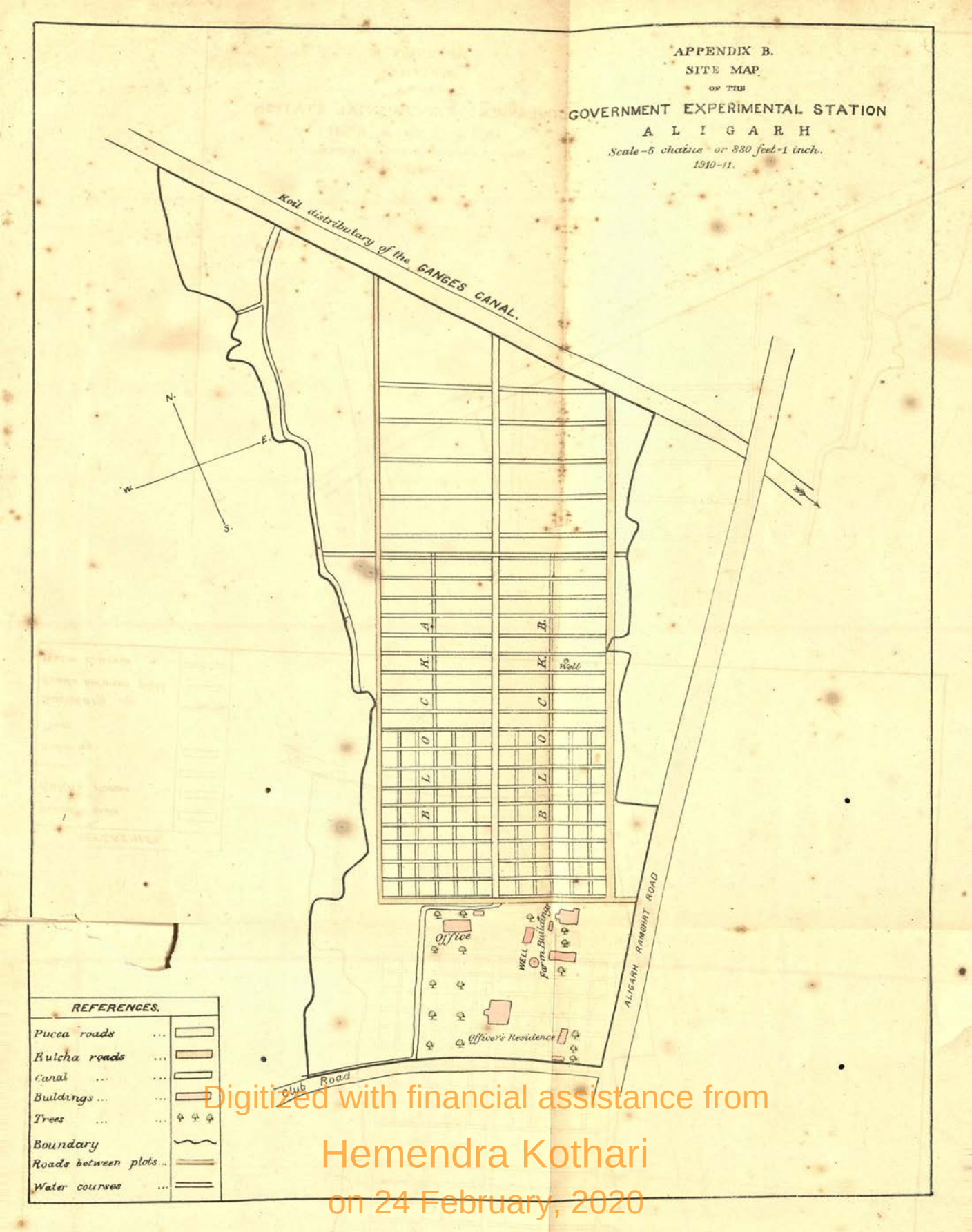
OF THE

GOVERNMENT EXPERIMENTAL STATION

A L I G A R H

Scale–5 chains or 330 feet–1 inch.

1910–11.



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